

The pattern of housing in Cairo has been rapidly changing over the last three decades to such an extent that Cairo is totally losing its traditional structure. This change which has been occurring since the middle of the century was brought about by the dynamics of social and economic forces changing the face of Cairo as well as of the whole country, a process that is continuing to this day. In order to define the problem in a broader perspective, let us discuss four points relevant to Cairo's urban change.

First, urban change is controlled and directed by clear ecological limitations and constraints. Rivers, valleys and deserts, flat and mountainous, are constants as against social and economic variables in the urban life of a country. This is apparent with regard to Egypt as a whole, but it is even more apparent in respect to Cairo: the pattern of growth and expansion of the city was always strongly influenced by the geography of the region.

Secondly, in spite of the fact that the change appears to be chaotic, it does follow a typically historical pattern. Cairenes always had the ability to develop a particular "style of life" in their new environments. The grouping of the population according to their original home town or trade is as clear today as it was throughout the history of the city.

Thirdly, the dynamic of change defies any attempt to contain or channel it. The change is self-propelling and self-directed, despite the attempted constraints of successive master plans. It is quite possible that previous plans lacked proper understanding of the nature of today's change



*Zamalik. new floors added onto a residential building in a different architectural style*

*Photo Abou-Zeid Rageh*

Table 1

Time of construction	Informal	Formal
	%	%
Before 1960	43.7	56.3
1960-1970	72.2	27.8
1971-1976	88.8	11.2
After 1976	75.0	25.0

Source Report on Informal Housing, GOHBPR.

and consequently were unable to catch up with the constant expansion of the city. The city is now literally left without a workable plan to cope with its growth. The price to be paid for this is high: about eighty per cent of the new housing stock generated in Cairo is informal, and it results in the loss of tens of thousands of acres of arable land.

Fourthly, the changing structure of Cairo not only took the form of building new neighbourhoods and new communities in the periphery, but also each neighbourhood underwent a fundamental trans-

formation. Most neighbourhoods are now a mixture of different types of housing and buildings. Zamalik and Garden City lost their traditional character as tall apartment buildings replaced villas. Al-Mohandissin, which was originally planned to contain four-storey apartment buildings and single houses, has now a score of tall buildings. Commercial and professional activities find their place in these areas which were once exclusively residential. Quite often the changes in the neighbourhood are manifested in the buildings themselves. New floors added to existing buildings are different in function and architectural style

Table 2 Number of housing units built in the period 1977 — 1982 according to unit size in the governorates of Cairo, Giza and Qalyubiya

Governorate	1 & 2-room Unit	3-room Unit	4-room Unit	5-100m Unit	More than 5-100m Unit	Total
Cairo	84964	55935	64869	22557	7666	235991
Giza	15990	22536	25417	9748	4312	78003
Qalyubiya	12917	25690	21497	3366	461	63931

Source Central Agency for Public Mobilisation and Statistics



The Pyramids area informal housing

Photo Abou-Zeid Rageh

from the original floors. Land use ordinance is literally absent and the city building code is hardly observed. It is only the old Cairo that is resisting these changes as it did in the first half of the century and is retaining its characteristics with reasonable success.

The problem of housing stems from a variety of reasons well-known: a rapid increase in population not matched by additional new housing units, internal migration from

rural to urban centres, deterioration of old parts of the city without up-grading or equivalent replacement, accumulation of housing shortage over the years, and finally, the increasing gap between the cost of housing and income levels.

Despite all efforts to redistribute internal immigration, both Cairo and Alexandria remain the major centres of attraction for immigrants from rural areas. Recent studies estimated that these two regions alone

attract 73 per cent of all migrants, due mainly to the tendency of concentrating administrative, production and service activities in these two hubs. Cairo and Alexandria contained 17 per cent of Egypt's total population in 1947, 25 per cent in 1976 and will probably have 31 per cent in the year 2000.

The recent increase of the underground water table, accompanied by a higher degree of sulphuric acid, has contributed to the deterioration in the old quarters of Cairo. These areas are poorly maintained and inadequately serviced. Buildings collapse forcing families to leave. A great number of them have no place to go, so they try to find shelter in mosques or in cemeteries. It is estimated that today 500,000 people live in the cemeteries.

The average family income is about £E 940 per year. If 25 per cent of this income is allocated for rent, the average family can then afford only an area of about 17 sq. m. to live in. The share of an individual will then be 3.7 sq. m., a figure far below the accepted standard. A housing unit of 40 sq. m. exceeds the budgetary resources of more than 60 per cent of Egyptian families. Encouraging self help, using indigenous materials and appropriate technology, reducing land cost, lowering financing costs and designing efficient dwelling units will lead to a reduction of housing costs.

A key issue is the rent control laws. These laws were intended to protect the tenant against the owner; however, with time they adversely affected this relationship, and furthermore, they did not help to stimulate private participation in housing construction. The rent control laws were legislated as early as 1940 and rents set at that time were frozen. In the early 1960s there were even two successive reductions, lowering the rental values below realistic levels and discouraging the owners from properly maintaining their properties.

The effect of later legislation has become a matter of great concern. Under pre-1981 laws, rents were set to allow a return of 5 per cent on building costs and 3 per cent on

land. The 1981 law permits a return of 7 per cent, while calling for two thirds of the units in new buildings to be set aside for rental and one third for sale. But figures determined by officials were often lower than actual construction costs, rendering the returns from investment in housing far below the current rates of return from banks or other investments. It should be noted that the 7 per cent is approximately half of the interest rate charged on construction loans by the banks; these laws have made private sector investment in housing a great risk.

It is now estimated that the housing shortage in Cairo has reached 299,000 units. Population density in Cairo in 1979 was 23,688 per sq. km.; the number of persons per dwelling unit is 5.5 and per room is 2. The official estimates are that 56,000 housing units are required per annum, allocated as follows: 39,000 to meet population growth; 8,700 for people without homes; 7,000 for those presently living in unsafe dwellings; 300 to replace demolished buildings; and 1,000 to ease density. On the total allocated for population growth, 16,000 units will be for immigrants.

For several reasons, the last thirty years are of special interest to us in the search for the pattern of change in the anatomy of Cairo. First, the changes which took place in Cairo during this period have been faster and are probably more important than all the changes which took place since the beginning of the nineteenth century. Secondly, the Egyptian social order began losing its traditional form in this period, resulting in a change of the urban form. Thirdly, Cairo was transformed in this period from a capital city to a diversified, large reservoir of practically all human activities, productive and non-productive. The city had been contributing to national welfare in practically all areas of life, but in the last thirty years the trend has reversed and the city is now consuming much of the nation's resources. Lastly, the city has reached its spatial limits. Today, planners are thinking of building a ring road around the city to arrest its growth. The next phase of exten-

Table 3 Families living in squatter areas and in one-room units in Cairo Governorate

Families Living in Squatter Areas		Families Living in One-Room Units	
Number of Families	Number of Persons	Number of Families	Number of Persons
12704	57899	241235	989064

Source *National Statistics, 1976*

sion is to build satellite towns scattered around it.

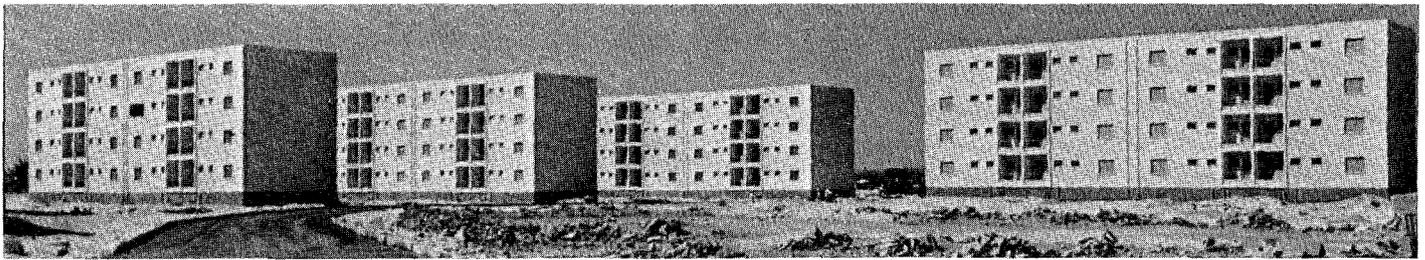
The last three decades can be divided into three distinctive periods: the first from mid-fifties to mid-sixties, the second from mid-sixties to mid-seventies and the third from mid-seventies till the present. In the first of these decades Egypt witnessed a wider participation of the state in national affairs, naturally accompanied by a planned and centrally directed economy. While the public sector grew fast, private enterprises were controlled and major private companies were nationalised under socialism or state capitalism. Major industrial development was undertaken and while the state showed a genuine interest in the welfare of the limited income groups, for the first time in Egypt's history, low-cost housing was built on a large scale.

The government built low-cost housing only in the Greater Cairo region (5,350 units) and Alexandria (1,500 units). The reason was probably because these two areas were at that time, as they have always been, the centre of interest of the central government, or perhaps because there was no pressing need for low-cost housing outside these two regions. These projects were built just outside the city, in Zaitoun in the north, Imbaba in the west and Helwan in the south, as well as in cleared slum areas in Zainhom and Shubra. The lay-out of these projects was much the same consisting of apartment blocks constructed parallel to one another. No attempt was made to provide open green spaces, and the essential social and physical services were also lacking. Population density was rather high, about 200 persons per feddan, the recommended density

being 150. It is generally observed that government planners of low-or middle-income housing try mainly to provide shelter, while utilities, access to job, health, education, recreation and other social facilities are all important and vital factors in a complete housing project.

Among the different types of units built, one-room, two-room and three-room apartments, the latter were more popular. They provided enough room for large households and extended families, and a small family could limit itself to one room and sub-let other rooms to secure extra income. 4,700 units of three-room type were built, almost two and a half times the number of the other types combined. These low-cost housing units varied from 25 sq. m. to 65 sq. m., the average being 52 sq. m. The average area per person was about 12 sq. m., a reasonable figure compared with similar housing in other countries. The finishing materials were of average quality and cost per square metre was about £E 7.

These projects were financed by the government through loans made available to a public sector company specially founded for this purpose: the Development and Popular Housing Company. Established in 1954, this company built low-cost housing and let the units at an average rent of £E 5 per month. Studies carried out recently on some of these low-cost housing areas showed a tendency to intensify the use of available space inside the units: the kitchen is used as an extra sleeping space after taking off the sink, balconies and terraces were closed and used for activities such as cooking or storing. It is not uncommon to raise chicken, geese or ducks on the balco-



*Industrial labour housing, Iron Mill Company, Helwan apartment buildings for employees, above, separate villas for managers, below*

*Photo Courtesy of Abou-Zeid Rageh*



nies, and to feed them the left-overs of the family meals. Buildings are not well kept, for example, water and sewerage leakage is obvious on outside walls and the exterior plaster is falling down. Spaces between blocks are generally covered with garbage and the over-flow from inefficient sewage disposal.

The second type of housing built during this decade was workers' housing. Residential neighbourhoods (sometimes called residential towns) were built for workers and employees attached to major industrial centres established at the time, for example the residential town for the Iron and Steel Mill Company in Helwan, which was built on 61 feddans and has about 700 dwelling units. A similar "town" with 300 units was built in Ab Zaabal in the north for railway employees and workers on a site of 150 feddans. Industrial towns were not limited to Cairo but were built around major industrial and production centres in other regions particularly in Aswan, Suez and Alexandria. Planning and designing

standards exceeded international levels. Population density was only 75 persons per feddan and entertainment and other social services were provided.

The housing units were mainly of two categories: two-storey separate villas having an area of 220 sq. m. for managers and three-room units of 85 sq. m. in apartment buildings for labourers and low-ranking employees. Smaller units of 65 sq.m. were also provided for single labourers. Three thousand units of three rooms and 85 sq. m. living area were built in Cairo alone for government employees. Similar apartments were built in the capitals of other governorates. Unfortunately, the building of such residential facilities for labourers and government employees was discontinued later.

Public housing programme for the middle classes was also successfully expanded: 1,020 units were built in Zaitoun, 1,200 units in Helwan and somewhat fewer in Abbasiya and Manial. The average dwell-

ing area varied from 90 sq. m. for three-room apartments to 120 sq. m. for four-room apartments. The population density was about 150 persons per feddan and the open spaces constituted 44 per cent of the total area. Separate and attached small villas were built in addition to apartment blocks and the building cost was only £E 10 per sq. m

In the early sixties, Heliopolis Company and Al-Maadi Company were nationalised and Nasr City was established. These three companies became the leading establishments in land development and housing construction. They grew fast and offered Cairo a possibility for expansion and growth. Sites were prepared with roads and infrastructure and made available to individuals as well as to development and real estate companies. Madinat al-Awqaf (the Engineers City) grew while Maadi west of Cairo and Heliopolis gradually lost their traditional exclusiveness. These three along with Nasr City became the residential quarters for the middle class. However-

Table 4 Number of housing units built in new towns

Town	Type of Housing	Finished Units from 80-84	Units in the Finishing stage	Units Under Construction	Contracted Units 83-84
15th of May	Low-income	6836	1949	4901	7363
	Middle-income	530	106	315	
	Upper-middle income	1026	35	8	
	Luxurious	520	126	126	
Total	23841	8912	2216	5350	7363
6th of October	Low-income	—	60	5276	7000
	Middle-income	—	134	2208	—
	Upper-middle income	—	—	—	—
	Luxurious	—	149	3424	—
Total	18251	—	343	10908	7000

er, while public housing flourished, private housing was severely hurt as a result of the drastic rent control measures taken during this period.

The first attempt to prepare a Master Plan for Cairo was made towards the end of the 1950s. Basic studies were made in depth zoning and land use, and the broad outlines of a master plan evolved, but it remained at the blueprint stage and was never totally implemented. The essential legal machinery for the implementation of the plan was never created. Urban problems were dealt with as they arose by different agencies, but without sufficient collaboration among themselves.

Housing programmes gradually declined between mid-1960s to mid-1970s, particularly in low-cost and workers housing. Middle income housing continued to expand but at a lower rate. Egypt was involved one way or another in international conflicts and internal problems were neglected. In this decade, the Development and Housing Company built only 710 units, about 11 per cent of the number built during the previous ten years. Norms of design and planning remained almost the same except that the new design showed a slight increase in the dwelling area. The Ministry of Housing

built "Nasser Emergency Housing" in several governorates, including 3,000 units in Cairo alone. Plans did not provide for social and physical services and the programme was completed hastily. To cut costs and time of construction, poor finishing materials were used and nobody insisted on good workmanship. The result was a fast deterioration of these buildings, built mostly in Helwan and on the main thoroughfare of the Engineers City, a rather inappropriate location.

In workers housing only one third of the number of units were realised as compared to the previous ten years. Most of these were built in the newly-established industrial centre in Shubra al-Khima: the two categories were separate villas for managers and apartments of different sizes for the rest of the employees and workers. Norms of design and planning remained the same as before.

Yet, the picture of middle-class housing was brighter. Nasr City and Maadi expanded eastward into the Eastern Desert, and Heliopolis and Helwan expanded northward and southward respectively. The practice of selling instead of letting began and gradually spread. At present the law only controls rents and real estate

prices are determined by market forces.

In 1971 the General Organisation for Housing Co-operatives was established to promote and supervise the development of housing co-operatives. The Organisation gradually expanded until it became the most effective device for providing housing for lower-middle and middle classes. Individual members were encouraged to form housing co-operatives. Major sources of financing housing co-operatives are through savings from members and government allocations. In 1975 the government financing for co-operatives was about £E 10 millions, while it reached £E 150 millions in 1983-1984. Financing is provided at 5 per cent for 15 years to co-operative groups and at 6 per cent for individuals. Planning and design of the units are left to the co-operative societies but they have to meet the Organisation's norms and standards. The Organisation also supervises construction and keeps a reasonable control over the societies. The increase in co-operative housing in recent years has resulted from government policy to channel large investment in housing through the Organisation.

Because of the absence of an effectively-implemented master plan and of adequate

Table 5 Number of housing units built by public sector and private sector in Cairo from 1 July 1983 to 30 June 1984.

Public Sector	Private Sector					Total
	Low-Income	Middle-Income	Upper-Middle Income	Luxurious	Total	
14637	28359	21264	14176	7088	70887	85524

Source Ministry of Housing.

support of low-income housing, and with the increase of immigration from rural areas to the city, informal housing spread over Cairo. This type of housing operates outside the formal process of land acquisition, building permits and formal planning and zoning, and is not related to official housing production. Growth of informal areas was extensive in the north of Cairo, particularly in Shubra al-Khima. Table 1 shows incidence of formal and informal housing construction in Cairo. While the Cairo Master Plan of the fifties was revised and updated in 1971, it remained ineffective for the same reason as mentioned before.

From the mid-1970s on, the housing scene in Cairo has been fundamentally transformed. Formal low-cost housing for limited income people came to a halt, and was replaced by informal housing. Middle-income housing continued its normal course of expansion in its traditional locations. Luxurious housing appeared again after two decades of absence but in a different form. Luxurious apartment towers are being built particularly along the river, giving Cairo a new sky-line.

The economy has become less centrally controlled than before and Egypt adopted an open-door policy. Foreign investment was encouraged and restrictions on private enterprise were lifted in practically all areas of industry and production, and importing became much easier. Egyptians were allowed and even encouraged to work in the wealthy neighbouring countries. The estimated number of Egyptian workers abroad having reached 3 millions, their re-

mittances constitute a significant share of the economy.

Egyptians working abroad, mostly in construction, directed part of their savings to housing and thus created, recently, a big demand for middle-income housing. Also, the presence of an increased foreign community, which came as a result of the new open-door policy, added to the demand for both middle- and upper-income housing. The demand created by these two groups has contributed to the recent rise in land prices and building costs. Furthermore, the continuous drain of labour force in the construction sector has upset the traditional wage balance. Workers' wages have increased to new heights, and for the first time they have overtaken the wages and salaries of other groups, particularly those of the professionals and civil employees. Land prices in Cairo increase at compound annual rates ranging from 25 to 40 per cent. Cost of building materials and labour have increased less rapidly at 15 to 20 per cent, but it outpaced the general inflation rate. To meet the growing need for dwelling units, and with the great increase in land prices, vertical extension on existing buildings became easier for investors than building new apartments on new sites. Additional floors account for as much as half of the units added to the existing stock.

Luxurious apartment buildings are located in three major areas: Zamalik, Garden City and along the Nile, particularly between Kasr al-Nil and Giza bridges on the west bank and in Maadi on the east bank. In these areas, private old villas and chateaux were destroyed and replaced with new tall apartment buildings. On large lots

more than one building was constructed. Because of a lack of tight municipal control, owners were able to add more floors than the building regulations generally permit. Egypt lost in these areas great architectural wealth that can never be replaced, and green areas gradually disappeared. Streets are jammed with cars and the public utilities are over-loaded. The new buildings are not strictly for housing as some of them are used for commercial activities and also as office space for new business firms. Generally they were put up for fast profit and with little attention to proper urban fit.

Middle-class housing continued to expand largely in traditional locations such as the Engineers City. This neighbourhood went through the same transformation as Zamalik and Garden City. New floors were added to existing buildings to gain extra dwelling units, single villas were replaced by multi-storey apartment buildings, tall buildings were erected on empty lots and, as in the case of Zamalik and Garden City, businesses moved in. The intermix of business and residential areas has recently become a common feature of these three neighbourhoods. New office buildings appeared mostly with glass curtain walls and other western design elements. Units originally designed for housing are now used as offices for different types of business. Because the Central Business District is unable to meet the demand, secondary business centres in Zamalik, Garden City and Al-Mohandissin are now in the process of formation.

Heliopolis, Nasr City, Maadi and Helwan continued to grow but the residential

character still dominates these areas. These areas are developed both by the public sector and the private sector. Under the new investment law, many development companies were established and interesting housing projects have begun in recent years. Planning and design norms are generally observed and open spaces and community facilities are provided. The dwelling areas vary from 80 to 130 sq. m. with one or two terraces, and the finishing materials are of acceptable standards.

Over the last ten years, informal low-cost housing has been growing fast. Those responsible for illegal subdivisions rarely comply with planning standards for street width and public open spaces. The common street width is about 4 m and the lay-out is always irregular. Lots generally range from 60 to 80 sq. m. in area. The availability of water is the most important factor, while electricity and sewerage are less important for informal housing since power can be obtained by other means such as kerosene lamps and the problem of sewerage can be resolved by the installation of septic or holding tanks. Once informal housing takes the form of a permanent residential community, residents request recognition and the government has no choice but to accept this reality and try to extend public utilities to these areas. Still, they may have to wait for years before services are extended and utility services to these areas are in general poor. There is no system of garbage collection and garbage is generally left in open areas and pavements, creating unsanitary conditions. Large areas of informal housing have a rural character, because many inhabitants who come to Cairo from rural areas keep their traditions. Raising animals and poultry is not uncommon, and the social characteristics are very much the same as in the villages.

The building standards are not much lower than formal low-cost housing. The same building materials and finishes are used: a reinforced concrete skeleton with red brick walls though the walls are generally unplastered. In many instances they are built with only a roof and supporting walls and the

users have to complete the interior as they wish. Similar to formal low-cost housing, informal households try to adjust the space to their own needs but with more success than those in formal houses, perhaps because they adapt more easily to their environment. Somehow the owners and tenants seem to establish a workable relationship. Owing to the increase of land and housing costs, the average tenant in informal housing spends about 30 per cent of the family income on rent. Recent studies show that 84 per cent of the units built in Greater Cairo are estimated to be informal, which indicates that had it not been for the contribution of informal housing, the housing problem would have been more acute than it is now.

In recent years, another type of housing appeared known as emergency housing. The municipal authorities have issued 150,000 orders of evacuation to families living in condemned buildings. To accommodate these people temporary housing units were built by the authorities in several parts of Cairo. These buildings, some constructed in wood and some having concrete walls and floors, are not so different from permanent low-cost housing, formal or informal since people, who live there for free, seem reluctant to leave. The Ministry of Housing is at present conducting experiments for putting up emergency housing units in a short time at a minimum cost, such as metal sheet barracks subdivided internally.

In the late 1970s Cairo adopted plans to construct satellite towns to meet the demands of its growing population. Emphasis on the development of satellite towns for Cairo's future urban expansion in desert areas has become a national strategy as discussed in other contributions in this volume. The target population for the five towns proposed is as follows: 6th of October City, 350,000; 15th of May, 150,000; El-Obour, 250,000; El-Amal, 250,000; Badr, 250,000.

Recognising the need to develop a national policy for housing, the Ministry of Housing developed in 1979 a national housing plan

to assure a comprehensive effort to provide dwelling units, to improve the capacity of the construction industry, to expand the production of building materials and to develop the training of workers. The plan projected a need to construct 3.6 million new urban units by the year 2000 and a detailed construction programme worked out. This plan still is the most serious among all the housing studies done in recent years.

The Housing Committee of the Advisory Council (the second house of the parliament) conducted in 1983 a similar study on the housing problem and its findings were published. In addition, the Ministry of Reconstruction, Housing and Land Reclamation held a seminar on housing in 1984 and its recommendations, too, were published recently.

These earlier studies called for the development of an operational land policy and procedures to ensure that adequate amount of land with infrastructure in place be made available for housing at acceptable prices. Methods of financing should be devised to allow the purchase of land at low cost and low interest over a long term, with special legislation to protect against land speculation. It has been recommended in certain studies that the best way to solve the housing problem is merely to provide roads and infrastructure and leave it to the private or the public sector to supply the housing. Supplies of building materials should be secured in adequate quantities, and measures to bring housing costs to an affordable level should be taken. It was suggested that this could be done on the one hand by providing subsidies to limited-income households to enable them to buy or rent at a fraction of market cost and on the other hand by lowering the inflation in land and building costs.

Several other recent research projects include one by the General Organisation of Housing, Building and Planning Research (GOHBPR) in collaboration with ABT Association and Dames & Moore, a study on informal housing in Cairo, and Beni Suf

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completed in 1981. Another study on core-housing and its possible applicability in Egypt has been completed and its implementation is now under way in the Helwan area. GOHBPR, in association with the Ministry of Housing and the Ministry of Reconstruction and New Communities, is at present carrying out intensive research into housing for limited-income people. The research will hopefully lead to establishing norms of design, setting of standards and selecting of adequate building systems and finishing materials. Financing and self-participation will also be considered.

The 6th of October City has allocated a neighbourhood for experimental low-cost housing. New ideas in design and planning will be experimented and evaluated. In addition, an area has been reserved for foreign countries to experiment in low-cost housing suitable for Egyptian households. Canada is presently building eight dwelling units using new building systems of sand panels, and West Germany is constructing a 4-storey building, experimenting with light concrete panels. The experiences of other countries could not be replicated but they might provide guidelines for the process.